REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claim 4, 5, 16, and 17 have been canceled. Claims 1-3, 6-15, and 18-22 are pending, of which claims 1, 6, 8, 13, 18 have been amended. In view of the amendments and the following remarks, the pending claims are currently in condition for allowance.

35 U.S.C. §102 CLAIM REJECTIONS

The Examiner has rejected claims 1 and 19 under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,758,269 issued to Wu (hereinafter "Wu"). Claim 1 has been amended to include the elements previously found in claims 4 and 5, which the Examiner has conceded was not anticipated by Wu. Thus, with respect to claim 1, the rejection under 35 U.S.C. §102 is moot. The rejection with respect to claim 19 is addressed below.

The Claimed Invention

The claimed invention is directed to an apparatus and method for effectively amplifying electrical signals. As shown in Fig. 1, a second stage power amplifier is connected to an output of a first stage power amplifier (see Fig.1 and Specification, page 4, lines 10-19). The first and second stage amplifiers are designed to operate together to efficiently deliver output power with at least two different output power levels. Each stage amplifier can be configured in at least two states. A state determination circuit selectively configures the two stage amplifiers based on criteria such as the output power level.

Wu

Wu teaches a configurable power amplifier that includes a plurality of amplifier stages linked in a series whereby the output of the amplifier is adjusted in accordance with the signal strength of a received wireless communication signal. The device disclosed in Wu adjusts the amplifier gain by applying a selected voltage to the gate of a field effect transistor (see col. 5, lines 31-37, see also Fig. 6). An amplifier and switch control circuit (57 of Fig. 5) is used to control a series of switches (54, 55, 56 in Fig. 5) that link the amplifier stages in series and also provides varied bias voltages to the various power devices. Variable gain levels are achieved in each stage using various bias voltages applied to the gate of the FET used in each stage. A first stage 51 is switched between a plurality of amplification levels as the amplification requirements increase. When the first stage is incapable of providing sufficient amplification at its highest level, an additional stage is linked in series (see col. 6, lines38-49).

Specific Rejection of Claim 19

Claim 19 has been rejected under 35 U.S.C. §102(b) as being anticipated by Wu. Specifically, the Examiner states:

> Wu discloses a switchable power amplifier and a method of operating/using the same comprising: a plurality of stages operable in series fashion wherein each of the plurality of stages has its own power output configuration so that for achieving a desired output level.
>
> Wu, however, does not anticipate claim 19. Claim 19 recites:
>
> > A method for amplifying a signal passing from a source to a load, said method comprising the steps of:
> > *determining an output power level of an amplifier*;
> > configuring a first stage amplifier of the amplifier in one of at least two states *based on said*

determined output power level, said first stage amplifier amplifying said signal; and
configuring a second stage amplifier of the amplifier in one of at least two states *based on said determined output power level*, said second stage amplifier amplifying said signal as amplified by said first stage amplifier.

The disclosure in Wu does not teach determining the output power level of an amplifier, nor does Wu disclose configuring the stages of an amplifier based on the output power level of the amplifier. The amplifier in Wu is controlled by an amplifier and switch control unit (see 57 in Fig. 5). This unit 57 is not coupled to the output (59 in Fig. 5) of the amplifier. The control unit 57 is driven by a signal strength monitoring circuit (28 in Fig. 5) which monitors a received signal to determine the configuration of the amplifier.

Because Wu does not teach determining an output power level of an amplifier and configuring the states of the amplifier based upon the determined output level, claim 19 is not anticipated by Wu. Thus, the rejection under 35 U.S.C. §102(b) should be withdrawn.

35 U.S.C. §103 CLAIM REJECTIONS

The Examiner has rejected claims 2-18 and 20-22 as being unpatentable over Wu in view of U.S. Patent No. 3,988,705 to King, et al. (hereinafter "King"). The elements of claim 4 and 5 have been incorporated into claim 1. The elements of claim 14 and 15 have been incorporated into claim 13.

The claimed invention and Wu were briefly summarized above in conjunction with the 35 U.S.C. §102(b) rejections. King is incorporated by reference into the specification and summarized beginning on page 1, line 21, reproduced in part below.

King

King teaches an amplifier for providing efficient power amplification at more than one output level. King uses two separate power devices. One power device is designed for efficiency at a first output level and is used exclusively to deliver power for a first power output range and the other power device is designed for efficiency at a second output power level and is used exclusively to deliver power for a second power output range. Using mutually exclusive power devices as taught in King results in inefficiencies in terms of system components, since, at any given time, only one device is being used.

The Examiner has not set forth a prima facie case of obviousness

As set forth in the MPEP:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combined reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143

The combination of references made by the Examiner is improper, as the combination of references fails to teach all the claim limitations, and furthermore there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine referenced teachings.

The Examiner has rejected claim 4 and 5 (whose elements are now contained in independent claim 1) as being unpatentable over Wu in further view of King. Amended claim 1 recites:

An amplifier comprising:

> *a first stage having at least two power states comprising a first power device and a second power device connected in parallel with said first power device*, said first stage having an input for receiving a data signal, a control port, and an output;
>
> *a second stage having at least two power states comprising a third power device and a fourth power device connected in parallel with said third power device*, said second stage having an input coupled to the output of said first stage, a control port, and an output; and
>
> a state determination circuit coupled to the control port of said first stage for selectively configuring said first stage in one of the at least two power states and further coupled to the control port of said second stage for selectively configuring said second stage in one of the at least two power states.

Neither Wu nor King teaches using multiple stages each containing a plurality of power devices connected in parallel. The stages in Wu each comprise a single power device. The amplification is varied to create different power states in each stage by applying several different voltage levels to the gate terminal of an FET. King uses a single stage with two power devices that are mutually exclusive in their operation. The configuration of the circuit in King creates an amplifier whereby each power device is designed to operate completely independently of the other. Two amplification states are achieved simply by switching from one independent stage to the other independent stage. Neither Wu nor King teaches using a first stage and a second stage with each containing a plurality of power devices in parallel, the rejection of claim 1 under 35 U.S.C. §103 is improper and should be withdrawn.

Furthermore, there is no suggestion or motivation to modify Wu in view of King in a manner that would yield the present invention. The power stages in Wu are single device stages combined

in series, such that additional stages can be added to create a greater cumulative amplification when the desired amplification cannot be achieved by one individual stage. The amplifier in King is a single stage amplifier that uses two devices that are configured in parallel. The amplifier in King is designed such that the power devices are configured so that only a single device can be operated at a given time. Since the objective in Wu for adding additional amplification stages in series is to raise the cumulative total amplification, Wu teaches away from adding stages or additional devices in a parallel configuration that operate exclusively of the other power devices in the amplifier. The parallel configuration in King allows for a simple switch to flip the amplifier from one mutually exclusive device to the other mutually exclusive device. Adding a parallel device that would operate exclusive of the other power devices to the amplifier in Wu would not further the objective of raising the cumulative amplification of all of the stages combined, and thus there is no motivation to modify Wu in this manner.

Because the combination of Wu and King fails to teach all of the elements of claim 1 or claim 13, and additionally, there is no motivation or suggestion to combine the teaching of King with the amplifier in Wu, the rejections under 35 U.S.C. §103 should be withdrawn. Claim 1 and claim 13 are in condition for allowance. Claims 2, 3, and 6-12 depend from claim 1, and claims 16-18 depend from claim 13, and thus these claims are also in condition for allowance.

CONCLUSION

In view of the forgoing amendments and remarks, pending claims 1-3, 6-13, and 16-22 are currently in condition for allowance. Applicant respectfully requests reconsideration and issuance of

the subject application. If any issues remain that preclude issuance of this application, the Examiner is urged to contact the undersigned attorney.

Respectfully Submitted,

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